1. (Amended) A method of improving the expression in a dicot plant of a foreign procaryotic protein comprising the steps of:

(a) analyzing the pattern of nucleotide codon usage in native plant genes having relatively high levels of expression in plants to select from among the codons coding for the same amino acid the codons for each amino acid which are utilized preferentially by the native plant genes;

(b) synthesizing a chimeric nucleotide coding sequence coding for the expression of the amino acid sequence of the foreign procaryotic protein with the chimeric coding sequence comprising codons differing from those in the coding sequence in the native organism of the protein and selected from among the codons determined to be preferentially utilized by the native plant genes;

(c) joining the chimeric nucleotide coding sequence with flanking regulatory sequences effective to express the chimeric coding sequence in plants; and

(d) transforming the chimeric coding sequence together with the regulatory sequences into the germ line of the dicot plant so that the foreign protein is efficiently produced in cells of the transformed plant.

9. (Amended) A transgenic dicot plant comprising in its genome a chimeric gene coding for the expression of a foreign protein natively produced in a foreign organism, the gene having been inserted into the germ line of the plant by genetic

engineering, the coding sequence of the gene differing from the coding sequence of the gene for the protein in its native organism by the substitution of nucleotide codons not preferentially expressed by native plants genes with codons which are preferentially expressed efficiently by native plant genes.

15. (Amended) A transgenic dicot plant comprising in its genome a gene coding for the amino-terminal portion of the delta-endotoxin gene of Bacillus thuringiensis, the gene including appropriate regulatory sequences effective in plant cells to express the coding region so that cells of the plant produce the delta-endotoxin protein so as to be toxic upon ingestion by Manduca sexta, the coding sequence of the gene including a 5' region of at least 150 nucleotides in length constructed as an oligonucleotide from nucleotide codons selected from those codons determined to be efficiently expressed in the cells of plants, the sequence of and pattern of codons being different from those in the coding region of the gene in Bacillus thuringiensis.

17. (Amended) A transgenic dicot plant comprising in its genome a gene coding for the amino terminal toxin portion of the delta endotoxin gene from Bacillus thuringiensis, the gene including appropriate regulatory sequences effective in plant cells to express a coding region so that cells of the plant produce the delta endotoxin protein in sufficient amount to be toxic upon ingestion to Manduca sexta, the coding region of the gene including a synthesized 5' region of between 25 and 132

codons in length constructed from nucleotide sequences selected from those codons determined to be efficiently expressed in the cells of plants and a 3' region comprising the native sequence from Bacillus thuringiensis.

18. (New) A transgenic dicot plant comprising in its genome a gene coding for the amino terminal toxin portion of the delta endotoxin gene from Bacillus thuringiensis, the gene including appropriate regulatory sequences effective in plant cells to express a coding region, the coding region having a 5' portion substantially similar to the portion of the sequence of BT4 listed as the top sequence in Figure 2 and a 3' portion substantially similar to the native sequence.

REMARKS

By an Office Action dated December 21, 1990, in the file of the above-identified application, the Examiner in charge of the application has rejected the specification and claims of the application under various provision of 35 U.S.C. 112, and has also rejected the claims under 35 U.S.C. 103. By amendments to the claims made above, various of the Examiner's rejections have been addressed, and the rest are addressed in the arguments presented herewith. Based on the changes to the claims made above, and the arguments presented herewith, reconsideration of the merits of this application is respectfully requested.

In the first rejection under Section 112, first paragraph, the Examiner objects to the specification for failure to provide an adequate written description or for failure to adequately